

What is claimed is:

1. A winged safety needle assembly, comprising:

a hub having a distal end, a proximal end, and an axial through hole, said hub further supporting a pair of flexible extension arms;

5 a cannula joined to said hub adjacent the distal end of said hub, said cannula having a beveled edge at a distal end thereof;

a cylindrical sheath having a locking tab attached thereto, said cylindrical sheath retaining said hub therein and having a distal end and a proximal end, said hub being slidable along an inner surface of said cylindrical sheath from a first position at which the distal end of  
10 said cannula joined to said hub projects beyond the distal end of said cylindrical sheath by a predetermined length, to a second position at which said distal end of the cannula is protectively contained within said cylindrical sheath;

a pair of flexible wings provided on the outer peripheral surface adjacent the distal end of said cylindrical sheath; and

15 a first locking mechanism and a second locking mechanism disposed on said assembly, whereby said first locking mechanism releasably locks said hub and said cylindrical sheath at the first position, and said second locking mechanism unreleasably locks said hub and said cylindrical sheath at the second position.

2. A winged safety needle assembly according to claim 1, wherein said first locking  
20 mechanism comprises said pair of flexible extension arms supported by said hub and a groove formed on the inner surface of the proximal end of said cylindrical sheath, and said locking tab attached to said cylindrical sheath with a hinge, wherein when said hub is at the first position in relation to said cylindrical sheath a pair of tips of said pair of flexible extension arms releasably

engages the groove and the locking tab releasably engages a proximal end of the flexible extension arms.

3. A winged safety needle assembly according to claim 1, wherein said second locking mechanism comprises said pair of flexible extension arms supported by said hub and a pair of slots formed in the proximal end of said cylindrical sheath, wherein when said hub is at the second position in relation to said cylindrical sheath a pair of tips of said pair of flexible extension arms unreleasably engages said pair of slots.

4. A winged needle assembly according to claim 1, wherein said pair of flexible extension arms extend from approximately a center of the hub toward the distal end of the hub.

5. A winged needle assembly according to claim 1, wherein said cannula is rotateable relative to the cylindrical sheath.

6. A winged needle assembly according to claim 1, wherein said hub is marked to indicate an orientation of the bevel edge of the cannula relative to the cylindrical sheath.

7. A winged needle assembly according to claim 2, wherein said locking tab includes a projection that is inserted through a slot in the cylindrical sheath to releasably engage the proximal end of the pair of flexible extension arms.

8. A winged needle assembly according to claim 6, wherein a width of the pair of slots is greater than a width of the slot in the cylindrical sheath.

9. A winged needle assembly according to claim 1, wherein a tube is connected to the proximal end of the hub.

10. A winged needle assembly according to claim 3, wherein an inner circumferential rib is provided on the interior proximal end of said cylindrical sleeve to abut against the pair of tips of said pair of flexible extension arms.

11. A winged safety needle assembly according to claim 1, wherein said first locking mechanism comprises said pair of flexible extension arms supported by said hub and said locking tab attached to said cylindrical sheath with a hinge, wherein when said hub is at the first position in relation to said cylindrical sheath said locking tab releasably engages a proximal end  
5 of the pair of flexible extension arms.

12. A winged needle assembly according to claim 11, wherein an inner circumferential rib is provided on the interior distal end of said cylindrical sleeve to abut against a pair of tips of said pair of flexible extension arms.

13. A winged safety needle assembly, comprising:

10 a hub having a distal end, a proximal end, and an axial through hole, said hub further supporting a pair of flexible extension arms;

a cannula joined to said hub adjacent the distal end of said hub, said cannula having a beveled edge at a distal end thereof;

a cylindrical sheath having a locking tab attached thereto, said cylindrical sheath  
15 retaining said hub therein and having a distal end and a proximal end, said hub being slidable along an inner surface of said cylindrical sheath from a first position at which the distal end of said cannula joined to said hub projects beyond the distal end of said cylindrical sheath by a predetermined length, to a second position at which said distal end of the cannula is protectively contained within said cylindrical sheath, wherein said cannula is rotateable relative to said  
20 cylindrical sheath at said first position;

a pair of flexible wings provided on the outer peripheral surface adjacent the distal end of said cylindrical sheath; and

a first locking mechanism and a second locking mechanism disposed on said assembly, whereby said first locking mechanism releasably locks said hub and said cylindrical sheath at the first position, and said second locking mechanism unreleasably locks said hub and said cylindrical sheath at the second position.

5 14. A winged safety needle assembly according to claim 13, wherein said first locking mechanism comprises said pair of flexible extension arms supported by said hub and a groove formed on the inner surface of the proximal end of said cylindrical sheath, and said locking tab attached to said cylindrical sheath with a hinge, wherein when said hub is at the first position in relation to said cylindrical sheath a pair of tips of said pair of flexible extension arms releasably  
10 engages the groove and the locking tab releasably engages a proximal end of the flexible extension arms.

15 15. A winged safety needle assembly according to claim 13, wherein said second locking mechanism comprises said pair of flexible extension arms supported by said hub and a pair of slots formed in the proximal end of said cylindrical sheath, wherein when said hub is at the second position in relation to said cylindrical sheath a pair of tips of said pair of flexible extension arms unreleasably engages said pair of slots.

16. A winged needle assembly according to claim 13, wherein said pair of flexible extension arms extend from approximately a center of the hub toward the distal end of the hub.

20 17. A winged needle assembly according to claim 13, wherein said hub is marked to indicate an orientation of the bevel edge of the cannula relative to the cylindrical sheath.

18. A winged needle assembly according to claim 14, wherein said locking tab includes a projection that is inserted through a slot in the cylindrical sheath to releasably engage the proximal end of the pair of flexible extension arms.

19. A winged needle assembly according to claim 19, wherein a width of the pair of slots is greater than a width of the slot in the cylindrical sheath.
20. A winged needle assembly according to claim 13, wherein a tube is connected to the proximal end of the hub.
- 5 21. A winged needle assembly according to claim 15, wherein an inner circumferential rib is provided on the interior proximal end of said cylindrical sleeve to abut against the pair of tips of said pair of flexible extension arms.
22. A winged safety needle assembly according to claim 13, wherein said first locking mechanism comprises said pair of flexible extension arms supported by said hub and said  
10 locking tab attached to said cylindrical sheath with a hinge, wherein when said hub is at the first position in relation to said cylindrical sheath said locking tab releasably engages a proximal end of the pair of flexible extension arms.
23. A winged needle assembly according to claim 22, wherein an inner circumferential rib is provided on the interior distal end of said cylindrical sleeve to abut against a pair of tips of said  
15 pair of flexible extension arms.
24. A winged safety needle assembly, comprising:  
a hub having a conical shaped head at a distal end thereof larger in diameter than a proximal end of said hub, said hub further supporting a pair of flexible extension arms;  
a cannula joined to said conical shaped head at the distal end of said hub, said cannula  
20 having a beveled edge at a distal end thereof;  
a cylindrical sheath having a locking tab attached thereto, said cylindrical sheath retaining said hub therein and having a distal end and a proximal end, said hub being slidable along an inner surface of said cylindrical sheath from a first position at which the distal end of

said cannula joined to said hub projects beyond the distal end of said cylindrical sheath by a predetermined length, to a second position at which said distal end of the cannula is protectively contained within said cylindrical sheath;

5 a pair of flexible wings provided on the outer peripheral surface adjacent the distal end of said cylindrical sheath; and

a first locking mechanism and a second locking mechanism disposed on said assembly, whereby said first locking mechanism releasably locks said hub and said cylindrical sheath at the first position, and said second locking mechanism unreleasably locks said hub and said cylindrical sheath at the second position.

10 25. A winged safety needle assembly according to claim 24, wherein said first locking mechanism comprises said pair of flexible extension arms supported by said hub and a groove formed on the inner surface of the proximal end of said cylindrical sheath, and said locking tab attached to said cylindrical sheath with a hinge, wherein when said hub is at the first position in relation to said cylindrical sheath a pair of tips of said pair of flexible extension arms releasably  
15 engages the groove and the locking tab releasably engages a proximal end of the flexible extension arms.

26. A winged safety needle assembly according to claim 24, wherein said second locking mechanism comprises said pair of flexible extension arms supported by said hub and a pair of slots formed in the proximal end of said cylindrical sheath, wherein when said hub is at the  
20 second position in relation to said cylindrical sheath a pair of tips of said pair of flexible extension arms unreleasably engages said pair of slots.

27. A winged needle assembly according to claim 24, wherein said pair of flexible extension arms extend from approximately a center of the hub toward the distal end of the hub.

28. A winged needle assembly according to claim 24, wherein said cannula is rotateable relative to the cylindrical sheath.

29. A winged needle assembly according to claim 24, wherein said conical shaped head is marked to indicate an orientation of the bevel edge of the cannula relative to the cylindrical  
5 sheath.

30. A winged needle assembly according to claim 25, wherein said locking tab includes a projection that is inserted through a slot in the cylindrical sheath to releasably engage the proximal end of the pair of flexible extension arms.

31. A winged needle assembly according to claim 30, wherein a width of the pair of slots is  
10 greater than a width of the slot in the cylindrical sheath.

32. A winged needle assembly according to claim 24, wherein a tube is connected to the proximal end of the hub.

33. A winged needle assembly according to claim 26, wherein an inner circumferential rib is provided on the interior proximal end of said cylindrical sleeve to abut against the pair of tips of  
15 said pair of flexible extension arms.

34. A winged safety needle assembly according to claim 24, wherein said first locking mechanism comprises said pair of flexible extension arms supported by said hub and said locking tab attached to said cylindrical sheath with a hinge, wherein when said hub is at the first position in relation to said cylindrical sheath said locking tab releasably engages a proximal end  
20 of the pair of flexible extension arms.

35. A winged needle assembly according to claim 34, wherein an inner circumferential rib is provided on the interior distal end of said cylindrical sleeve to abut against a pair of tips of said pair of flexible extension arms.